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ABSTRACT

A study examined the use of sensory integration techniques to reduce the maladaptive behaviors that interfered with the learning of nine high school students with mental impairments attending a special school. Maladaptive behaviors identified included rocking, toe walking, echolalia, resistance to change, compulsive behaviors, aggression, tantrums, monotone speech, and gagging. A literature review examined the relationship between the senses and behavior of those with disabilities; the functions of nervous system and sensory integrative processes; and various methods of behavioral intervention including aversives, drugs, megavitamins, diets, psychotherapy, animal therapy, auditory integration therapy, and sensory integration techniques. The intervention involved the use of various sensory integration techniques including auditory/vestibular, visual, olfactory, gustatory, tactility, speech/communication, behavior, and balance techniques. After the intervention, the teacher reported a decrease in maladaptive behaviors and increase in student enjoyment of the activities. Appendices include observation checklists, a caretaker questionnaire, and the parental consent form. (Contains 28 references.) (CR)

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ED 399 705

IMPROVING MALADAPTIVE BEHAVIORS USING SENSORY INTEGRATION TECHNIQUES

by

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Submitted in partial fulfillment of the requirements for the degree of Master's of Arts in Teaching and Leadership

Saint Xavier University & IRI/Skylight

Field-Based Master's Program

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Abstract

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Title: Improving Maladaptive Behaviors Using Sensory Integration Techniques

This report describes a program for decreasing maladaptive behaviors in the targeted population. The subjects consisted of mentally impaired high school age students in a self-contained public school setting. The school is located in a large metropolitan area in the Midwest. The extent of the problem was documented through a behavior checklist, a caretaker questionnaire, and the teacher's daily journal.

The professional literature supports the use of sensory integration techniques to reduce the incidence of maladaptive behaviors in children with mental impairments. These techniques were chosen as an intervention for use with the targeted population over a four month period of time.

Post intervention data, which was based on a behavior checklist and teacher journal entries, indicated a decrease in maladaptive behaviors, especially in the areas of frustration and tactile responses.

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Chapter 1

PROBLEM STATEMENT AND CONTEXT

General Statement of Problem

The students in the high school age class of mentally impaired students, exhibit maladaptive behaviors that interfere with learning. Evidence for the existence of the behaviors are evident in teacher journal entries, observation checklists, and behavioral referrals.

Immediate Problem Context

The targeted high school age class of mentally impaired students is located in a separate public school, serving children with disabilities. The district enrollment is approximately 26,915 students. The enrollment in the targeted school is approximately 135 students ranging in ages from 6 years old to 21 years old. The students have varying disabilities including moderate to profound mental impairments, speech and language impairments, visual impairments, hearing impairments, behavior problems, physical impairments, and sensory impairments.

The school has a teaching staff of 15 classroom teachers and 37 paraprofessionals. There is a support staff team consisting of one point four speech and language therapists, one art teacher, one swimming instructor, one adaptive physical education teacher, one building engineer, and part time staff of a school psychologist, occupational therapist, vision teacher, and social worker (Szegda, 1995). The administration staff consists of one principal and one secretary.

Certified staff ranges in years of experience from three years to nineteen years (S. Anderson, personal communication, June 1, 1995). The average years of experience in the district is 17.1 with 64.6 percent of the staff having a masters degree. Average salary in the district is $40,749 (State School Report Card, 1994). The operative expenditure in the district is an average of $5,558 per student (State School Report Card, 1994).

A large number of students in the school live in residential facilities. There are also a number of students who are from outside of the school district and pay tuition to attend this school. The targeted class consists of 10 students with varying disabilities.

The Surrounding Community

The school district serves a large metropolitan midwestern city with a population of approximately 139,426 people. The community is composed of 81.1 percent White, 15 percent Black, .3 percent American Indian, Eskimo or Aleut, 1.5 percent Asian, and 2.1 percent other races. The median household income is $28,282 with 10.5 percent of families below poverty level (United States Census Report, 1990). Six and one tenth percent of the population is unemployed. Twenty-eight and three tenths people per 1,000 employees are employed in managerial, professional, or technical work. Eleven and six tenths people per 1,000 employees are employed in precision production, craft, and repair work. Eight and five tenths percent of the population are disabled. Seventy four and eight tenths percent of the population have 12 years of school or more while 18.7 percent of the population have 16 years of school or more (Slater and Hall, 1993).

The school district has 39 elementary schools, 3 middle schools, and 4 high schools. The elected school board consists of seven members. Each member is elected from different areas in the city. The district is currently under a desegregation court order. Due to the court order, the district is in the process of reorganization. In this process, each school is mandated to have a Comprehensive Planning Team. This team consists of parents, school staff, and agency representatives.

Recently the targeted school has undergone a change in service delivery. The four primary education areas include communications, sensory motor, career learning, and career living. Because the school serves such a wide range of ages, the administrator is in the process of reclassifying the school as a center instead of an elementary school.

Regional and National Context of Problem

Children with disabilities often have maladaptive behaviors. Some of these behaviors include rocking, toe walking, echolalia, resistance to change, compulsive behaviors, aggression, tantrums, monotone speech, gagging, etc. These behaviors interfere with students' learning. They are related to sensory problems.

People with autism have reported being hypersensitive in sensory channels. The sensory channels to the brain are seeing, hearing, tasting, smelling, and feeling (Delacato, 1974). Often autistic behaviors are referred to as autisms. Delacato now refers to these autisms as deafisms, blindisms, tasteisms, smellisms, and tactilisms.

These "sensoryisms" are important to the people with disabilities. Autistic people report having senses so exaggerated that they fail to function as society feels the "normal" person should. People like this have periods of sensory overload. They may have eyesight so acute that they see every hair on a person's head. Hearing may be so heightened that the sound of gentle waves to a "normal" person, sounds like crashing tidal waves to a person with autism. People like this can only relate their discomfort after undergoing auditory training (Nemeth, 1994).

Donna Williams is a person who is fighting autism. She reports times when her mind shuts down. She is able to deal with some of her "sensoryisms" through the help of special tinted glasses (Nemeth, 1994). According to Chisolm (1992), Donna

Williams reports struggling to sort images out and conversations not having meaning. Chisolm also reports children being able to communicate for the first time through facilitated communication. It is said that the power of touch makes facilitated communication work with some people (Shapiro, 1992).

Many of the behaviors that are seen in people with autism are also seen in people with mental impairments (Delacato, 1974). Frith (1993) reports that there is a close relationship between autism and mental retardation. Because of these findings, it can be said that "sensoryisms" are found in people with mental impairments. The same techniques can be applied to these people to help them learn. Reducing "sensoryisms" will help increase attending skills. There might also be side effects that improve self-esteem. If people feel good about themselves, learning is more effective.

Chapter 2

PROBLEM EVIDENCE AND PROBABLE CAUSE

Problem Evidence

In order to document the extent of maladaptive behaviors, a behavior checklist (Appendix A) was completed on each student in the targeted class. There was also a caretaker questionnaire (Appendix B) sent to each students home. All of the students in the class were involved in the observations.

To summarize the checklist, the behaviors were grouped by what affected senses caused the behavior. Upon studying the information gathered on the observation checklists, it was obvious that the behaviors fell into the different sensory categories. This has also been discussed in different meetings with Don Szegda. The behaviors are discussed on an individual basis to determine what sensory channels are affected. Compulsive behavior is related to visual. Fingers in ears and echolalia are related to hearing. Aversion to others maybe related to smell. A light touch or an aversion to being touched are related to tactility. Because students have sensory problems, behaviors may arise from frustration. Tantrums, hitting, self abuse, and talking to themselves may be related to frustration. Some of the behaviors are caused by more than one sensory channel being affected. For example, grinding teeth could be related to hearing or tactility. Attending problems and rocking may be related to the visual or hearing channel. It depends on the individual student. Table 1 shows the number of behaviors observed in each sensory area. Added to the list is a number of behaviors caused by frustration possibly due to sensory overload.

Table 1

Number of Maladaptive Behaviors Observed
in Targeted Sensory Areas

Sensory Area	Number of Behaviors
Visual	08
Hearing	13
Smelling	02
Tactile	14
Taste	01
Frustration	21

The evidence points toward needing an intervention to help with sensory input. There is a great frustration level in the students. Within the behaviors, there is a great need to increase attending skills (Appendix C). Of next greatest importance is voice problems. There is a great number of students who have echolalia, monotone, high pitch or low pitch voices. The third area is that of tactility. Almost every student has a behavior that is a tactility issue.

Three parents responded to a questionnaire. In analyzing the results, it was found that one of the parents did not observe any sensory problems with his child. The other parents did observe sensory problems with their children. One parent felt her child had great sensory needs.

When comparing teacher data with parent data, it was interesting to note that the teacher felt all students were considered to have some sensory problems

Probable Causes

A review of professional literature supports the theory that brain injury causes maladaptive behaviors. People react to their surroundings in different ways. This is

affected by the experiences that have taken place in each individuals life. If the brain is injured, a person's perception may be altered.

A basic understanding of the nervous system helps to understand why brain injury affects maladaptive behaviors. The nervous system consists of two large cerebral hemispheres, a smaller cerebellum, a brain stem, a spinal cord. Each of these structures contain neurons which carry impulses to the body. These are sensory neurons. There are also motor neurons which carry impulses to muscles and internal organs. Our thoughts and actions are produced by neurons. They tell us about our bodies and environment (Ayers, 1979).

Each part of our body has receptors that change energy into streams of electrical impulses. These impulses flow through sensory nerve fibers to the spinal cord and brain. The stream of electrical energy flowing to the brain is called sensory input. The brain is primarily a sensory processing machine. Brain damage leads to poor sensory processing (Ayers, 1979).

"Scans make it clear that the brain is a society of specialists" (Begley, Wright, Church, and, 1992, p. 70). Learning starts in the nervous system long before birth (Ayers, 1979). Sensations that enter the body are food and nourishment for the nervous system. The brain decides what it will admit and retain (Hart, 1989). "Scientists know that the brain continuously registers an enormous number of sensory impressions, but electrophysiologists have shown that there are many more stimuli than the brain uses" (Liepmann, 1973, p. 61). The human brain has an enormous ability to handle complexity (Hart, 1989). The brain needs a good supply of sensations to develop adequately.

People adapt to sensations which make situations familiar to them. As sensations enter the body through channels to the brain, the sensations are organized. Within each person there is a great inner drive to develop sensory integration (Ayers, 1979). The channels to the brain are the senses of seeing, hearing, tasting, feeling, and smelling (Delacato, 1974).

Delacato (1974) discovered that people who were normal and became brain injured desired the same need for sameness as people who were born with a brain injury. "When the functions of the brain are whole and balanced, body movements are highly adaptive, learning is easy and good behavior is a natural outcome" (Ayers, 1979, p. 28). People with sensory integrative dysfunction cannot process sensory input well. Without good sensory processing there is a traffic jam in the brain (Ayers, 1979).

Grandin and Scariano (1993) report autistic children like intense stimulation. This desire may contribute to severe maladaptive behaviors. The likeness of autistic people's behavior to mentally impaired peoples' behaviors, may prove a correlation to the mentally impaired peoples sensory integration problems. Autistic people show fixation behaviors that blockout other stimulation that they cannot handle. Self stimulatory behaviors help calm an overaroused central nervous system (Grandin and Scariano, 1993). Behaviors that are exhibited by children are the child's message to the observer of what channels are affected (Delacato, 1974).

"The brain handles all purposeful learning and behaviors, and all emotions" (Hart, 1989, p. 1) Channels to the brain, as discussed earlier, are affected by brain injury in one of the following ways according to Delacato (1974):

Hyper- The channel is too open causing too much stimulation to the brain.

Hypo- The channel is not open enough causing too little stimulation to the brain. The brain is deprived.

White noise- The channel creates its own stimulus because of faulty operation which makes perceptions garbled. In extreme cases the channel is overcome by noise in the system.

There are sensory patterns (Liepmann, 1973) and there is a need for sensory stimulation. The diagram in Figure 1 shows the senses, integration of their inputs and their end

products (Ayers, 1979, p. 60). This diagram shows how many things come together into one. Four levels of the sensory integrative process are represented by the brackets.

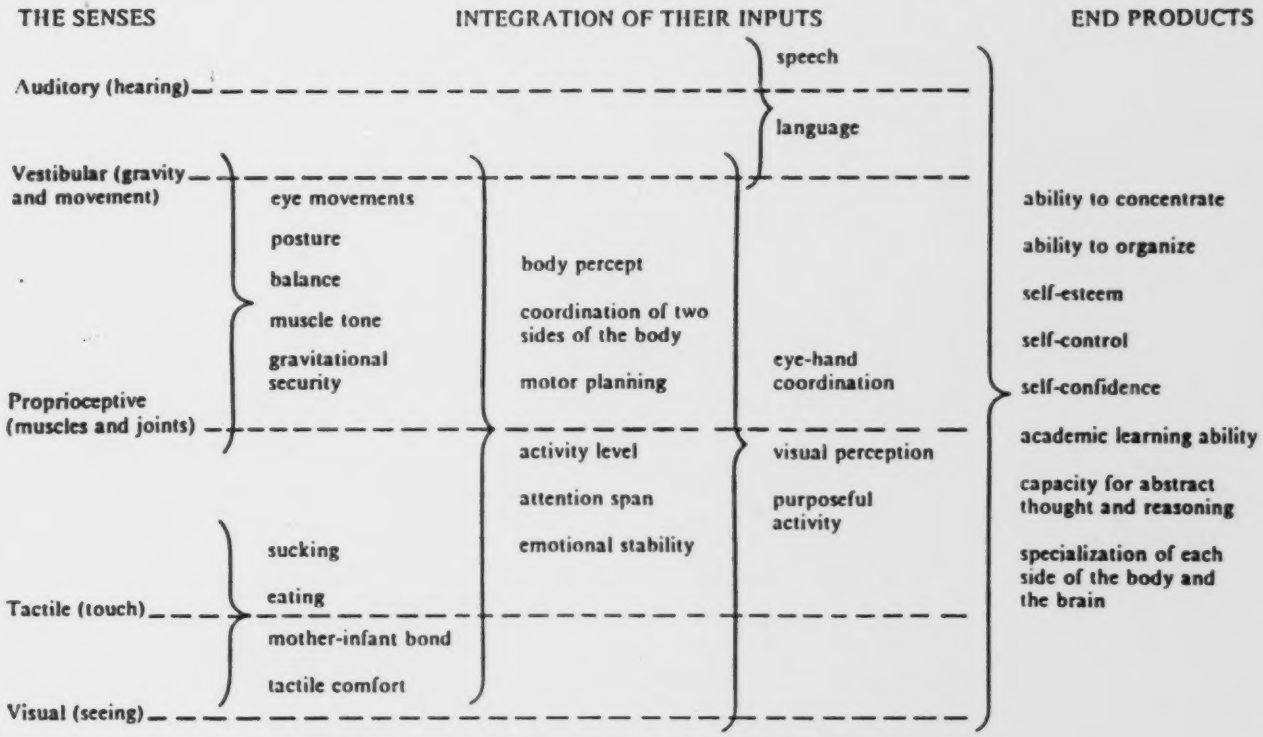

Figure 2. The Senses, Integration of Their Inputs, and Their End Products

Note. From Sensory Integration and the Child by A. Jean Ayres, 1979, California: Western Psychological Services. Copyright 1979 by Western Psychological Services.

Every child follows the same basic sequence of sensory integrative functions. Some develop faster, some slower. A great deal of deviation causes trouble later in life (Ayers, 1979). As the brain practices the sensations over and over, it masters the sensory images. If the brain is injured, practicing the sensations needs to be provided. "Even an adult brain constantly grows new neural circuits and connections in response to stimulation" (Grandin and Scariano, 1993, p. 142).

Chapter 3

THE SOLUTION STRATEGY

Review of the Literature

There are various methods that have been used to alter behavior in mentally impaired students. They range from using aversives, drugs, megavitamins, diets, psychotherapy, animal therapy, Auditory Integration Therapy (AIT), and sensory integration techniques. Some of these techniques are controversial, while others have proven to be extremely beneficial.

Aversives are one method used to stop self-injurious behaviors. They are an alternative to using nonintrusive methods. One aversive discussed by Holden (1990) is self-injurious behavior-inhibiting system or SIBIS. SIBIS is an old shock technique that gives immediate, automatic feedback when a person engages in self-injurious behavior. Aversives are a controversial method and are considered unethical to use in an educational setting.

There have been drug therapies used to control or change behaviors in people with mental impairments. One such drug used is clomipramine (Bower, 1992). It has had beneficial results for some children, but does have some minor side effects. Drugs seem to mask or suppress symptoms (Rimland, 1993). Drugs also can cause problems, therefore they are not a first option in dealing with maladaptive behaviors.

Scientific evidence proves that megavitamin therapy and avoiding "junk food" have positive effects on the behavior of some children (Rimland, 1993). Megadoses of vitamins, especially B6 and Magnesium, have been a popular choice. Megavitamins have been proven to be worthy of trying, as well as, eliminating or limiting sugar, phosphates

and other additives from children's diets. The best diet includes foods that have not been processed or packaged in a box, can, or bottle. These two methods may help, but there needs to be more to programming for children with mental impairments.

Psychotherapy is an option that has been tried with some children. It is not one that is recommended (Wing, 1972). Psychotherapy encourages regression which does not prove to be beneficial for the mentally impaired or the autistic population.

There are theories that recommend using animals to help mentally impaired children increase learning. Jerome (1993) reports on one such treatment using dolphins. Dolphin therapy operates on two main theories: modifying behavior and reducing stress. This program costs nearly $2,000 and includes eight twenty minute sessions during a two week program. This proves to be costly and not readily available to many children.

Auditory Integration Therapy has had noteworthy results in many children. Veale (1994) reports results in improved attention span, reduced tantrums, reduced self-stimulatory behaviors and reduced distractibility, among others. AIT tends to improve overall hearing and can reduce or eliminate sound sensitivity at specific frequencies (Rimland and Edelson, 1994). AIT has indications of being more useful with lower functioning people. People who are hard to test with other behavioral methods, are able to use AIT (Gravel, 1994). Parents have been asked for their viewpoints on the effectiveness of this method (Monville and Nelson, 1994). Different people yielded different results with this testing procedure. Overall, AIT results are inconclusive at this point. Implementation is still in its early stages.

Sensory integration is another suggested method for changing maladaptive behaviors in mentally impaired people. This method, to some degree, has helped comatose patients recover (Schwartz, 1987). Various sensory stimuli were provided to children in comas, with remarkable results.

Zisserman (1991) reports on the use of deep pressure to help control self-stimulatory behaviors. The sensory integration techniques are based on the assumption that

experience affects the brain (Delacato, 1966). A method of patterning is used for lower functioning individuals. If a child cannot perform a developmental milestone such as crawling, patterning is used to let the child feel the motions of the task (Delacato, 1974). These individuals need to improve their ability to organize and process sensory input (Dunn and Degangi, 1992). Sensory integration provides a holistic approach to treating the total child. The child has to learn to function in his environment. He needs to experience each stage of development, according to Delacato (1974). If a stage is skipped during development, it needs to be taught and practiced to train the brain and fulfill the part of "normal" development most people go through (Don Szegda, personal communication, June 30, 1995). Activities in the sensory integration technique are coupled with appropriate motor activity. "The brain develops and is organized through use" (Delacato, 1974, p. 157).

Ayres (1979) states that children need special therapy when they cannot correct sensory integration problems on their own. "Given the opportunity to do so, the brain will organize itself" (Ayres, 1979, p. 136). Sensory integration is a way to help a child accomplish what nature couldn't (Ayres, 1979). Szegda (Personal communication, June 30, 1995) suggests using several sensory integration techniques for the classroom (Appendix D). These techniques are performed on a daily basis. They include all of the senses, and behavior and communication activities.

Sensory integration techniques can be easily accomplished on a daily basis. They are ethical and are supported by studies that suggest they are worth implementing. The central idea behind sensory integration therapy is to help the child spontaneously form his responses to sensations (Ayres, 1979). One goal, as a special educator, is to help the students function in their environment to the best of their ability. "Intelligence is, in large part, the product of interaction with the environment" (Ayres, 1979, p. 136).

Project Outcomes and Solution Components

Solutions suggested by the professional literature, combined with an analysis of the site, resulted in the formulation of the following project objective.

> As a result of implementing sensory motor integration techniques, during the period of September 1995 to December 1995, the targeted mentally impaired high school age students will decrease maladaptive behaviors as measured by a post observation checklist.

In order to accomplish the terminal objective, the following processes are necessary:

1. Complete evaluations and observations to begin sensory integration programming.
2. Implement staff training in sensory integration.
3. Collect materials needed to implement some of the sensory activities.
4. Implement the sensory techniques on a daily basis.

Action Plan for the Intervention

A. Evaluation and Observations

1. Teacher and paraprofessional complete observation checklist on each student. (Appendix A)
2. Teacher send permission slip to guardians. (Appendix E)
3. Teacher send questionnaire to caretakers. (Appendix B)
4. Teacher consult principal for his evaluation of individual students.

B. Staff training

1. Principal train instructional team in sensory activities.
   a. Auditory/ vestibular
   b. Visual
   c. Olfactory
   d. Gustatory

e. Tactility

f. Speech/communication

g. Behavior

h. Balance

2. Workshop training as available.

C. Scheduling

1. Teacher set up a schedule for activities.

a. Whispering: 2 times a day for 30 seconds each ear

b. Ear palpitations: 2 times a day 30 seconds each ear

c. Memory words: add 10 words a week, do 2 times a day for 2 minutes a time

d. Rhythms: 1 time a day for 1 minute

e. Smells mild to strong: 1 time a day

f. Tastes (sweet, sour, salty, bitter): 1 time a day

g. Brush (soft): 2 times a day for 2 minutes to arms and legs

h. Hair dryer: 6 inches away 2 times a day for 2 minutes to arms and legs

i. Vibrator or massager: to arms and legs 2 times a day for 2 minutes

j. Squeeze hands and feet: 2 times a day

k. Rough towel: rub hands and feet 2 times a day

l. Stiff brush: on hands and feet 2 times a day

m. Opposites: once a day for 2 minutes (up-down, up-down, up-_____)

n. Lead-ins: once a day for 2 minutes using pictures (This is an apple, This is an apple, This is an _____)

o. Action songs/sing along: once a day for 2 minutes

p. Simon says: once a day for 2 minutes

q. Creeping or knee walking: 2 times a day for 2 minutes

2. Set up stations to alternate activities

D. Materials

1. Locate massagers, vibrators, towels, pictures, word cards, brushes, mats, etc.

2. Have checklist to make sure activities are being done daily. (Appendix F)

E. Implement activities daily.

F. Post intervention data using behavior checklist.

Methods of Assessment

In order to assess the effects of the sensory integration techniques on mentally impaired students, a post observation checklist will be used. The checklist is used to look for the presence of maladaptive behaviors. The teacher will also keep a daily journal as part of the assessment process.

Chapter 4

PROJECT RESULTS

Historical Description of Intervention

The objective of this project was to reduce maladaptive behaviors by implementing sensory integration techniques.

Various sensory integration techniques were implemented during the course of the intervention. They included auditory/vestibular, visual, olfactory, gustatory, tactility, speech/communication, behavior, and balance techniques. Due to time constraints, original plans were altered. Student schedules and classroom schedules did not allow the full schedule of sensory activities as originally stated. Changes were made a follows:

-Whispering was done once a day.

-Ear palpatations were not done.

-Memory words were done once a day.

-Rhythms were not done.

-Smells and tastes were done once a week.

-The soft brush was not done.

-The hair dryer and vibrator were done one time daily.

-Squeezing hands and feet, using a rough towel and using a stiff brush were not done.

-Opposites and lead-ins were done daily.

-The remainder of the activities were not done.

Activities were started the second week after school started. The activities were carried out consistently on a daily basis by staff. Two students initiated using the vibrator, hair dryer, and smelling kit independently during free time.

Presentation and Analysis of Results

In order to assess the effects of sensory integration techniques on reducing maladaptive behaviors, a post observation checklist was completed on each student. The data collected are presented in Table 2. The post observation checklist is presented in Appendix G.

Table 2

Number of Maladaptive Behaviors Observed in Targeted Sensory Areas

Sensory Areas	Pre-Intervention	Post Intervention
Visual	08	05
Hearing	13	12
Smelling	02	01
Tactile	14	10
Taste	01	00
Frustration	21	05

The intervention appears to have had a positive effect on the student population involved. Teacher observation data also indicates that the intervention had a positive effect on the students. It was noted that students attention to task had increased slightly, which is not apparent in Table 2. Overall, the teacher observed a decrease in maladaptive behaviors in the targeted population as well as a great enjoyment of the activities. The teacher particularly noted an enjoyment of the vibrator, hair dryer, and smell kit. There was a dramatic decrease in the frustration level according to the data presented. For

example, previous frustration behavior of yelling or screaming was noted in pre-intervention data. Post-intervention data shows no students having this behavior. Kicking or hitting behaviors were noted pre-intervention and had decreased post-intervention. Examples in the tactile area include rubbing lips and being sensitive to touch pre-intervention. Post-intervention shows a decrease in the number of students exhibiting these behaviors.

Please note that one student did move out of district during the intervention.

Conclusions and Recommendations

Based on the data presented, maladaptive behaviors decreased as a result of the sensory integration techniques used. The students appear to be able to attend for longer periods of time and therefore are more productive in the classroom. The frustration level has greatly changed. It should be taken into account that the student who moved out of district may have an impact on that portion of data.

It is recommended that a sensory integration approach is a positive move towards decreasing maladaptive behaviors in mentally impaired children. If the techniques were used over a more extended period of time, the results would be even more striking than have been shown here. Small gains are big steps in the special education classroom.

In order for these techniques to be effective, it is recommended that training be obtained. The educator needs to be trained in techniques and have an evaluation of their students done by someone who is knowledgeable in sensory integration.

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Appendices

Appendix A

Observation Checklist

Behaviors	Check	Notes
staring		
attending		length
out of seat		
rocking		
compulsive behavior		
grinding teeth		
toe walking		
light touch (grasp)		
sensitive to touch		
fear of running		
sleeping in class		
hands in shirt		
infatuation with objects		
fingers in ears		
aversion to tastes		
aversion to smell		
aversion to others		
monotone		
echolalic		
tritches		
uncontrollable laughing		
masterbation		
swearing		
yelling or screaming		

Observation Checklist con't.

Behaviors	Check	Notes
crying		
tantrums		
pulling hair		
scratching		
hitting		
kicking		
biting self		
biting others		

This questionaire is a part of my research as a student of St. Xavier University. Your cooperation is voluntary and all responses will be confidential.

Caretaker Questionaire

1. What activities will your child attend to and how long will they attend to it?

activity	time
1.	
2.	
3.	

2. Does your child have aggressive behavior? Please describe.

yes no

3. Does your child have compulsive behaviors? Please describe.

yes no

4. Does your child have sensitivities in the following areas?

	yes	no
hearing		
vision		
touch		
balance		
smell		
taste		

Observation Checklist
PRE

Behaviors	**Check**	**Notes**
staring		visual
attending	6	hearing length
out of seat	2	
rocking	1	visual
compulsive behavior	3	visual
grinding teeth		tactile or hearing
toe walking	3	tactile
light touch (grasp)	3	tactile
sensitive to touch	2	tactile
fear of running		visual
sleeping in class		hearing
hands in shirt	2	tactile
infatuation with objects	3	visual
fingers in ears	2	hearing
aversion to tastes	1	taste
aversion to smell		smell
aversion to others	2	smell (hearing or tactile)
monotone	2	hearing
echolalic	1	hearing
twitches	2	frustration
uncontrollable laughing	2	frustration (hearing)
masterbation		tactile
swearing	2	frustration
yelling or screaming	4	frustration (hearing)

Observation Checklist con't.

Behaviors	Check	Notes
crying	2	frustration (hearing)
tantrums	1	frustration
pulling hair	1	frustration (tactile)
scratching	1	frustration
hitting	2	frustration
kicking	2	frustration
biting self	2	frustration and tactile
biting others		frustration, tactile
flatulence	1	frustration, tactile
running	1	hearing (visual)
soft voice/high pitch	4	hearing
pinches self	1	tactile
talking to self	1	hearing
clears throat	1	frustration
rubs lips with fingers	1	tactile
refuses to wear glasses	1	visual
hates bees or flies	1	hearing
touches people	1	tactile

Name Classroom

EVALUATION FORM

Date 8-25-95

Evaluator [redacted]

AUDITORY/VESTUBULAR
roll
spin
wall roll
sonersault
ear plugs
whispering 2 x 30 sec. each ear
head/ear palpatation 2 x 30 sec. each ear
memory for numbers
memory for words 10 a week 2x2
memory for sentences
rhythms 1 x 1 min.
balance threatening in arms
balance threatening on knees
balance threatening on feet
sounds in space

aud. discrimination
aud. distance
auditory anticipation
Walkman (ear phones)

VISUAL
T.B.I.
pleoptics(colored___)
pen light(colored___)
4 corners of eyes
moving
in the dark(follow the leader)
pupilary light reflex
look and touch: objects
look and touch: shapes
monoc. pursuits(center out)
bioc. pursuits
convergence
accommodation
through screen viewing
pin hole glasses
visual memory

ball games: rolling/one bounce/
catch/throw/dribble/balloon play
eye contact
open lid against resistance

OLFACTORY
smells: (mild strong) 1 x 1
smell of the day

GUSTATORY
tastes: (sweet, sour, salty, bitter) 1 x 1
(mild strong)

HANDS AND FEET
D.M.T.
squeeze 2x2
hit(hard)
vibrator
warm and cool
rough towel rub 2x2
brush 2x2
porcupine shoes
lotion
finger squeeze

BALANCE
creeping 2x2
knee walking

BEHAVIOR
stop and start 1x1
Simon says 1x2
behavior book
ticket system
activities of daily living
compromise(yes, but)
positive reinforcement of...

EVALUATION FORM con't

TACTILITY

LIGHT(SOFT)
palpate
massage
brush 2x2 } to arms + legs
hair dryer 2x2 }
lotion

MEDIUM

palpate massage brush
vibrator(to joints only) 2x2 to arms + legs
hair dryer

HEAVY(DEEP)
palpate
massage 2x2 } to arms and legs
brush 2x2 }
vibrator(to joints only)
hair dryer

deep muscle therapy
warm back rub
temps. along spine(warm/cool)

FACE AND MOUTH
trigeminal massage
mandibular massage
massage under chin
soft brush-face
palpate face/mouth
vibrator to jaw (gently)
deep pressure-teeth
tap teeth
tongue up/tongue down
deep pressure-tongue
brush teeth and mouth
massage gums
pull lips over teeth
swallowing

SPEECH/COMMUNICATION
communication board/book
divers reflex
mouth to mouth sounds
vowel sounds
consonant sounds
indian sounds
sound reflection
opposites 1x2
lead-ins 1x2
action songs/sing along 1x2
onomatopoeia
poems
follow commands(commissions)
kazoo/recorder(flute)
telephone/tape recorder
Karaoke

HAND AND LEG ACTIVITIES
finger opposition
magician exercise
supination/pronation
ball squeeze
kicking ball
pick up with toes
open against resistance(extenstion)

gag reflex
head up/head down
tongue pursuits
open and close mouth
open against resistence
whistling
kissing
warm/cool to lips
straw(drink with)

Permission Form

I, the legal guardian of the research participant named below who is not currently able to give proper informed consent, acknowledge that the investigator has explained to me the need for this research, identified the risks involved, and offered to answer any questions I may have about the nature of my ward's participation. I freely and voluntarily consent to my ward's participation in this study. I understand all information gathered during the interview will be completely confidential. I also understand that I may keep a copy of this consent form for my own information.

_____

Name of Participant

_____ _____

Signature of Legal Guardian Date

_____

Witness(Signature)

Appendix F

Daily Data Checklist

30

Date ②														
Student names / Activities														

Observation Checklist
POST

Behaviors	**Check**	**Notes**
staring		visual
attending	6	hearing length
out of seat	1	
rocking	2	visual
compulsive behavior	2	visual
grinding teeth		tactile or hearing
toe walking	3	tactile
light touch (grasp)	3	tactile
sensitive to touch	1	tactile
fear of running		visual
sleeping in class		hearing
hands in shirt	1	tactile
infatuation with objects	1	visual
fingers in ears	1	hearing
aversion to tastes		taste
aversion to smell		smell
aversion to others	1	smell (hearing or tactile)
monotone	1	hearing
echolalic	1	hearing
twitches	1	frustration
uncontrollable laughing		frustration (hearing)
masterbation		tactile
swearing	2	frustration
yelling or screaming		frustration (hearing)

Observation Checklist con't.

Behaviors	Check	Notes
crying		frustration (hearing)
tantrums		frustration
pulling hair		frustration (tactile)
scratching		frustration
hitting	1	frustration
kicking		frustration
biting self	2	frustration and tactile
biting others		frustration, tactile
flatulence		frustration, tactile
running		hearing (visual)
soft voice/high pitch	1	hearing
pinches self		tactile
talking to self	1	hearing
clears throat		frustration
rubs lips with fingers		tactile
refuses to wear glasses		visual
hates bees or flies	1	hearing
touches people	1	tactile